

The prevalence of antimicrobial resistant salmonella spp. and the risk factors associated with their occurrence in finisher pigs in Seberang Perai, Malaysia

ABSTRACT

Across sectional study to determine the occurrence and antimicrobial resistance pattern of *Salmonella* spp. in finishing pigs was carried out at 12 selected pig farms. The farm characteristics and certain management practices associated with the occurrence of *Salmonella* spp. were also evaluated. Rectal swabs were collected aseptically from 210 randomly selected finishing pigs. Suspect *Salmonella* colonies isolated were identified using a set of conventional biochemical tests and these isolates were sent to the Veterinary Research Institute (VRI) for serotyping. The antimicrobial sensitivity test was conducted on the isolates against a panel of selected antimicrobials that are commonly used in local pig production using disc diffusion method. In addition, a questionnaire on the management of farms, herd health programme, and common antimicrobial usage was collected from farm representative, resulting in variables that could be analyzed to identify factors associated with the occurrence of *Salmonella*. The results showed that 32 out of 210 finishing pigs (15.2%) tested were positive for *Salmonella typhimurium* and the isolates were detected from 9 out of 12 farms sampled (75.0%). Most of the isolates showed a relatively high level of antimicrobial resistance. The occurrence of *Salmonella* in pigs were significantly associated with (1) farms which were not equipped with footbath or vehicle wheels dip; (2) farms with vermins/birds in the surrounding; (3) farms with less frequent pen cleaning and (4) farms which are located adjacent to the neighbouring farms.

Keyword: Pigs; *Salmonella*; Risk factors; Prevalence; Antimicrobial